

Message

From: Jeffry D. Bennett [JBennett@barr.com]
Sent: 1/31/2018 8:59:50 PM
To: Robinson, Randall [robinson.randall@epa.gov]
CC: 'Kinser, Greg' [GKinser@usg.com]; Hill, Mike (MHill@usg.com) [MHill@usg.com]; Aaron G. Aamold [AAamold@barr.com]
Subject: RE: CTDMPPlus discussion and contour figure

Randy,

As requested, here is the data from the UMore Park met tower that we have purchased to date and other data that is available:

Sensor Data Considered in Current Analysis

| Sensor | Elevations |
|-------------------------------------------------------------------|----------------------------|
| 3D Sonic Anemometer [1] | 127.9m, 79.1m, 29.6m, 9.9m |
| - 1-hour Average Wind Direction | |
| - 1-hour Standard Deviation of Wind Direction (σ_θ) | |
| - 1-hour Average Wind Speed | |
| - 1-hour Vertical Wind Speed Standard Deviation (σ_w) | |
| Air Temperature [2] | 125.9m, 76.7m, 27.1m, 7.3m |
| - 1-hour Average (T_a) | |

[1] Data collected at 20 Hz

[2] Data collected at 1 Hz

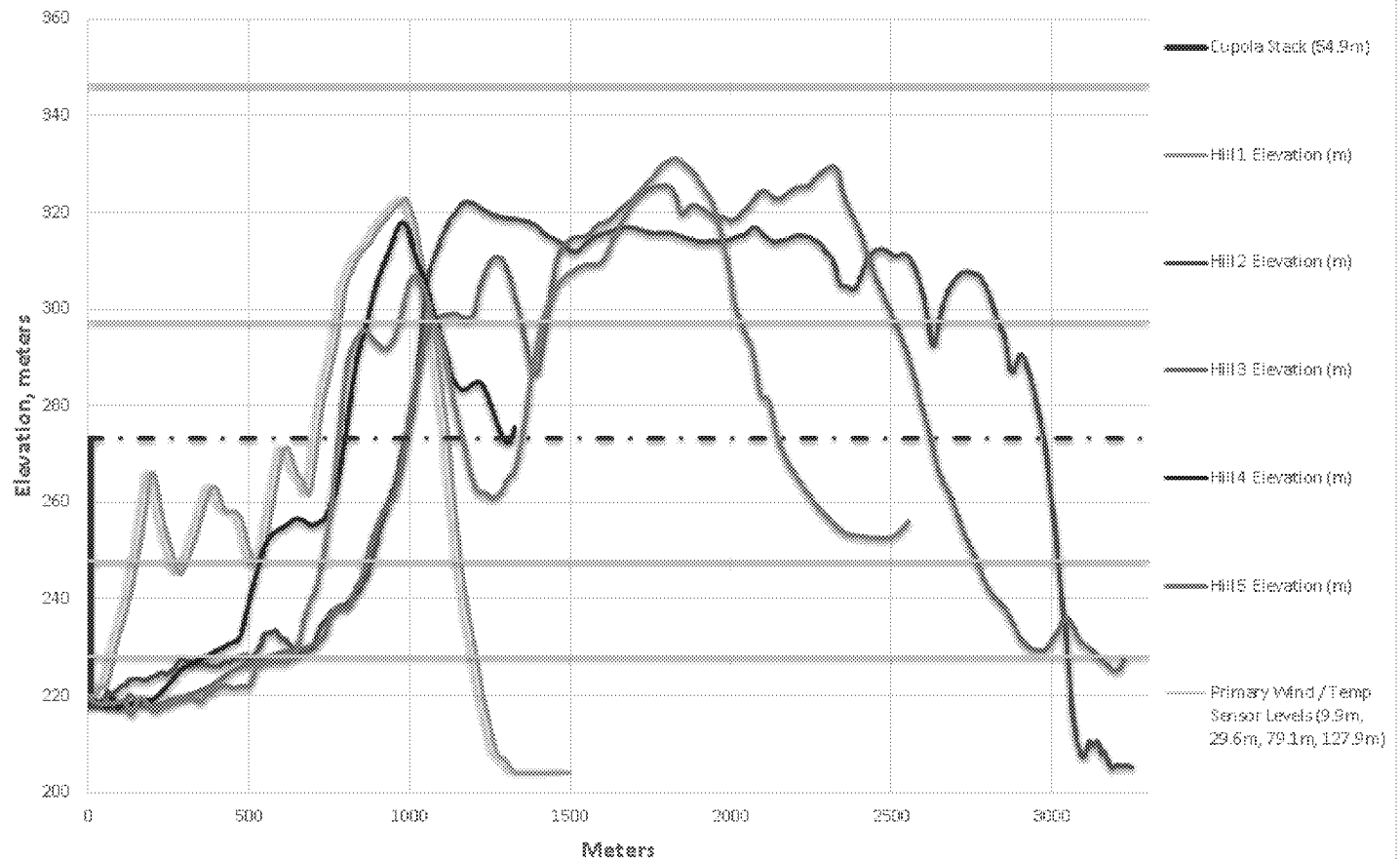
Other Available Sensor Data on Met Tower

| Sensor | Elevations |
|----------------------------------------|----------------------------------------------|
| Cup Anemometer / Wind Vane | 125.9m, 101.5m, 76.7m, 51.5m, 27.1m, 7.3m |
| - Wind Direction | |
| - Standard Deviation of Wind Direction | |
| - Wind Speed | |
| - Standard Deviation of Wind Speed | |
| Air Temperature | 101.5m, 51.5m |
| Barometric Pressure | 76.7m[3] |
| Relative Humidity | 125.9m, 101.5m, 76.7m[3], 51.5m, 27.1m, 7.3m |

[3] Data purchased for one hour average and collected at 1 Hz

Also, as we discussed, below is a figure with an elevation cross section by hill from the cupola stack through the peak of each hill. Given the parameters collected and the vertical distribution of the sensors along with the information provided in the figure, we believe this substantiates the UMore Park met data is suitable for use in CTDMPPlus at Red Wing. In particular, the measurements include data sets collected above stack height and a set collected above maximum hill heights.

Cross-section Through Cupola Stack and Hill Peak



Please let me know if you have any questions about this information. Thanks.

Jeff

Jeffrey D. Bennett, PE

Senior Air Quality Engineer

Jefferson City, MO office: 573.638.5033

cell: 573.694.0674

JBennett@barr.com

www.barr.com

resourceful. naturally.



From: Robinson, Randall [mailto:robinson.randall@epa.gov]
Sent: Tuesday, January 30, 2018 1:57 PM
To: Jeffery D. Bennett
Cc: 'Kinser, Greg'; Hill, Mike (MHill@usg.com); Schaufelberger, Daniel
Subject: RE: CTDMPlus discussion and contour figure

Hi Jeff,

Sorry for the delayed response but thanks for the contour information. FYI, I'm having a call with OAQPS contacts on Thursday regarding CTDMPlus. I suspect most of the discussion will center around met data suitability. If you have any additional information that you can share on the met tower regarding measurement heights and specific parameters, that would be welcome. Otherwise, I do have the description you provided over the phone during our call.

I'm sure we'll be talking again soon.

Thanks again,
Randy

Randy Robinson
Air and Radiation Division
EPA Region 5
312 353-6713

From: Jeffry D. Bennett [<mailto:JBennett@barr.com>]
Sent: Thursday, January 25, 2018 1:33 PM
To: Robinson, Randall <robinson.randall@epa.gov>
Cc: 'Kinser, Greg' <GKinser@usg.com>; Hill, Mike (MHill@usg.com) <MHill@usg.com>
Subject: CTDMPlus discussion and contour figure

Randy,

Thanks for the good conversation last week on CTDMPlus. As we discussed, attached you will find a graphical representation of the contours for the hills that we are investigating as part of the CTDMPlus modeling for USG Interiors – Red Wing facility.

The contours are based on 1/3 arc-second National Elevation Data downloaded from the MRLC consortium viewer (<https://www.mrlc.gov/viewerjs/>) as recommended in EPA guidance to execute terrain pre-processors.

Please take a look at the figure and let me know if you have any questions.

Thank you.

Jeff

Jeffry D. Bennett, PE
Senior Air Quality Engineer
Jefferson City, MO office: 573.638.5033
cell: 573.694.0674
JBennett@barr.com
www.barr.com

